

REMARKS/ARGUMENTS

The amendments set forth above and the following remarks are responsive to the points raised by the Office Action dated September 1, 2010. In view of the amendments set out above and the following remarks, reconsideration is respectfully requested.

The Pending Claims

Claims 1-19, 21-25, and 27-28 are pending. Claims 21-25 and 27-28 are withdrawn.

Claims 2, 6-8, 11, and 17 are amended to describe the invention more clearly. No new matter is added, and support for the amended claim language may be found within the original specification, claims and drawings. Claims 2 and 7 are supported in the specification at, e.g., page 2, lines 13-16; page 2, lines 30-31; page 3, lines 29-30; page 5, lines 14-17; page 6, lines 4-5; page 8, lines 17-26; and Figure 3B. Claim 6 is supported in the specification at, e.g., page 7, lines 24-29. Claim 8 is supported in the specification at, e.g., page 12, lines 29-30. Claim 11 is supported in the specification at, e.g., page 10, lines 26-29. Claim 17 is supported in the specification at, e.g., page 3, lines 16-20.

Rejections under 35 U.S.C. § 112

Claims 2, 6, 8, and 11-18 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite.

Each of these rejections is separately and respectfully traversed. However, in order to expedite matters and to allow the application to pass to issuance quickly, claims 2, 6, 7, 8, 11, and 17 have been amended to improve the form of the claims and to more distinctly claim the subject matter which the applicant regards as the invention.

The Office Action alleges that claim 11 is indefinite because it is unclear whether the claimed “external support” is a structural part of the laminated product. The definiteness requirement requires that the claims be sufficiently clear so that the public can be informed of the boundaries of what constitutes infringement (MPEP § 2173). Here, the specification explains that an example of an external component that can store a portion of the information is a CD-ROM (see, e.g., page 11, lines 11-14). Accordingly, when read in light of the specification, one of ordinary skill in the art would understand that the claimed “external

support” is external to the claimed laminated product. Thus, it is respectfully submitted that the metes and bounds of claim 11 are clear and that amended claim 11 satisfies the requirements of 35 U.S.C. § 112, second paragraph.

The Office Action alleges that the term “composite material” of claim 18 is unclear. As shown in the attached excerpt from *The Cambridge Dictionary of Science and Technology*, New York: Cambridge University Press, page 184 (1988) (Exhibit A), “composite material” is a well-known term of art denoting a “structural material made of two or more different materials.” Accordingly, one of ordinary skill in the art would understand that the claimed “composite material” is a structural material made of two or more different materials. Thus, it is respectfully submitted that the metes and bounds of claim 18 are clear and that amended claim 18 satisfies the requirements of 35 U.S.C. § 112, second paragraph.

Thus, it is respectfully submitted that with these remarks and amendments to the claims, the rejections under 35 U.S.C. § 112, second paragraph, have been overcome and should be withdrawn.

Rejections under 35 U.S.C. § 103

Claims 1-9, 11-15, 18, and 19 were rejected under 35 U.S.C. § 103 as unpatentable over U.S. Patent No. 2,106,385 to Springer (hereinafter, “Springer”) in view of U.S. Patent No. 6,100,804 to Brady et al. (hereinafter, “Brady”) as further evidenced by U.S. Patent No. 5,767,789 to Afzali-Ardakani et al. (hereinafter, “Afzali-Ardakani”).

Claims 5, 8, 14, and 15 were rejected under § 103 as unpatentable over Springer in view of Brady as further evidenced by Afzali-Ardakani as applied to claims 1, 2, 4, 7, and 11, and further in view of U.S. Patent No. 6,448,886 to Garber et al. (hereinafter, “Garber”).

Claim 10 was rejected under § 103 as unpatentable over Springer in view of Brady as further evidenced by Afzali-Ardakani as applied to claims 1 and 4, and further in view of U.S. Patent No. 6,294,997 to Paratore et al. (hereinafter, “Paratore”).

Claims 16 and 17 were rejected under § 103 as unpatentable over Springer in view of Brady as further evidenced by Afzali-Ardakani as applied to claims 1, 2, 11, and 15, and further in view of U.S. Patent No. 6,207,004 to Murasawa (hereinafter, “Murasawa”).

Claim 17 is rejected under § 103 as unpatentable over Springer in view of Brady as evidenced by Afzali-Ardakani and further in view of Garber as applied to claim 15, and further in view of Murasawa.

Each of these rejections is separately and respectfully traversed.

The obviousness rejection of claim 1, the only independent claim under examination, cannot be maintained because the cited references fail to teach or suggest a laminated product in which adjacent sheets of the stack are connected to one another by “a bonding force which is less than the resistance of the sheets to tearing, so that each sheet can be detached from the stack without being torn.”

The claimed feature that the adjacent sheets can be “detached from the stack without being torn” advantageously makes it possible to adjust the thickness of the laminated product by exfoliation. If the adjacent sheets were not able to be “detached from the stack without being torn,” then a sheet being removed would disadvantageously tear into at least two parts: one part being effectively separated, which would locally reduce the thickness, and another part remaining on the stack, which would locally maintain the initial thickness.

The Office Action alleges that Figure 2 of Springer discloses that the sheets of Springer are separated without being torn. The Office concludes that the bonding force of the adhesive (latex) of Springer is less than the resistance of the sheet to tearing, and that the sheet has a resistance to tearing.

Figure 2 of Springer is a lateral (i.e., side) view of a shim showing the layers 10 partially separated. Because the shim is being viewed from the side, Figure 2 fails to show the whole surface of the separated layers 10. Thus, it is impossible to determine whether the layers 10 have been torn or not. Figure 2 is silent as to whether the separated portions of the layers 10 are torn or untorn because the whole surface of that portion of the layer that has been separated from the other layers is not visible to the reader. Accordingly, Figure 2 of Springer fails to disclose the claimed feature that the sheets can be “detached from the stack without being torn.”

Likewise, the text of Springer is also silent as to whether the layers 10 “can be detached from the stack without being torn,” as claimed in claim 1. Springer states at page 2, right column, lines 14-25:

Its permanently tacky characteristic causes the several layers which make up the shim to reunite and bond themselves securely together as an integral structure following a separation of the layers resulting from any cause whatsoever. ...

By relatively permanently tacky is meant that characteristic of the material which causes successive impregnated fibrous layers of the material to re-unite or re-bond themselves together upon being compressed together following separation of said layers.

These passages say nothing about whether the layers 10 of the shim of Springer are torn or not. Thus, Springer fails to explicitly disclose the claimed feature that adjacent sheets of the stack are connected to one another by “a bonding force which is less than the resistance of the sheets to tearing, so that each sheet can be detached from the stack without being torn.”

Springer also fails to inherently disclose adjacent sheets that can be “detached from the stack without being torn,” as claimed in claim 1. In order to rely on the theory of inherency, the Office must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art (MPEP § 2112). The Office has not done this.

In fact, there are several technical reasons why Springer fails to inherently disclose adjacent sheets that can be “detached from the stack without being torn.”

First, Springer teaches that the shim is compressible (page 1, left column, line 13; page 2, right column, lines 31-32). Compressibility of a shim is a disadvantage where the thickness of the shim is to be reduced by removing one or more of its laminae. Because the shim of Springer is compressible, the claimed characteristic that the adjacent sheets can be “detached from the stack without being torn” cannot necessarily flow from the teachings of Springer.

Second, Springer teaches that the layers re-unite or re-bond together following separation (page 2, right column, lines 20-25). The ability to re-bond or re-unite following separation suggests a strong bonding force, which may not *necessarily* be a “bonding force

that is less than the resistance of the sheets to tearing,” as claimed in claim 1. In fact, layers which re-unite or re-bind themselves together following separation might not readily be detached. Moreover, the re-bonding of the layers of Springer contradicts the claimed feature that the thickness is “adjustable by exfoliation.” Because the shim of Springer contains layers that re-unite or re-bond together following separation, the claimed characteristic that the adjacent sheets can be “detached from the stack without being torn” cannot necessarily flow from the teachings of Springer.

Springer fails to teach the claimed feature that adjacent sheets of the stack are connected to one another by “a bonding force which is less than the resistance of the sheets to tearing, so that each sheet can be detached from the stack without being torn,” either expressly or inherently. Nor does the Office explain why this claimed feature would be obvious to one of ordinary skill in the art. Thus, the obviousness rejection cannot be maintained.

Claim 1 also recites that the laminated product includes “a housing within the thickness of the stack.” According to the Office Action, Figures 1 and 5 of Springer disclose a housing (identified by number 14) within the thickness of the stack. Springer states that numeral 14 in the Figures indicates “[s]uitable apertures for the passage of bolts or other fastening means extending between the two members” (page 1, right column, lines 31-34). The applicants assert that the aperture 14 of Springer cannot be compared with the housing of claim 1 because the housing of claim 1 is not for passing the electronic component through it, but for lodging the electronic component. Thus, the applicants assert that Springer fails to disclose a housing for lodging an electronic component. Thus, the obviousness rejection cannot be maintained.

The Office Action correctly acknowledges that Springer fails to teach “an electronic identification component located in the housing,” as claimed in claim 1. The Office Action alleges that Brady teaches a thin, flexible electronic radio frequency identification (RFID) tag and teaches that RFID is becoming an important identification technology for tracking objects such as packages, merchandise, or objects, which the Office Action alleges could include items of manufacturing such as shims.

In order to maintain an obviousness rejection, Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one

of ordinary skill in the art and must provide an appropriate supporting rationale for the proposed modification (*KSR International Co. v. Teleflex Inc. (KSR)*, 550 U.S. 398, 82 USPQ2d 1385 (2007); (MPEP § 2141). The Office fails to provide an appropriate supporting rationale to support the allegation that the packages, objects, and merchandise of Brady would include an item of manufacturing such as a shim. The applicants note that Brady teaches that the RFID tags may be embedded in thin labels in laminated and printed forms (col. 3, lines 20-25). Brady does not disclose that the RFID tags can be used in shims. Accordingly, the obviousness rejection cannot be maintained.

The Office Action alleges that it would have been obvious to locate the RFID of Brady in the housing of Springer's shim so as not to increase the thickness of the shim. As explained above, the aperture 14 of Springer is for the passage of bolts. The Office has not explained how the RFID of Brady would remain in the aperture 14 of Springer and not simply pass through it. Moreover, tracking would be impossible if the RFID simply passes through the aperture. Thus, the obviousness rejection cannot be maintained.

Moreover, the proposed modification to include an RFID in the aperture 14 of Springer would change the operation of the device of Springer. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious (MPEP § 2143.01 (VI)). If an RFID tag is located in the aperture 14 of Springer, as alleged in the Office Action, it would not be possible for a bolt to pass through the aperture 14, as specifically taught in Springer (page 1, right column, lines 31-34). Thus, the obviousness rejection cannot be maintained.

In addition, the rejections based on Springer in view of Brady as evidenced by Afzali-Ardakani cannot be maintained. The applicants point out that Afzali-Ardakani does not disclose a laminated product having a thickness adjustable by exfoliation and which includes an electronic identification component located within a housing that is located within the thickness of the stack, as claimed in claim 1.

Amended claim 1 is patentable for the reasons set forth above. Garber, Paratore, and Murasawa do not cure the deficiencies of Springer, Brady, and Afzali-Ardakani. Therefore, the combinations also fail to render claim 1 obvious.

Since independent claim 1 is allowable for the reasons set forth above, the dependent claims are also allowable because they depend from, and include the limitations of, patentable claim 1.

In addition, dependent claims 5 and 8 are also allowable, not only because they ultimately depend from and include the limitations of patentable independent claim 1, but because they also define limitations not taught by Springer, Brady, Afzali-Ardakani, and Garber.

Claim 5 recites that the memory has a storage capacity of at least 512 bits. The Office Action alleges that Garber discloses an RFID having a storage capacity of between 128 and 512 bits (col. 7, lines 25-35). Garber discloses that typically, between 128 bits and 512 bits of *total* memory can be provided economically (col. 7, lines 28-30). Garber does not specifically teach how much of the 128-512 bit range is for storing information. Garber gives an example of an RFID tag providing 256 bits of user programmable memory in addition to 128 bits of memory reserved for items such as the unique tag serial number, version and manufacturing information, and the like (col. 7, lines 30-35). Garber gives another example of an RFID tag providing 384 bits of user memory along with an additional 128 bits reserved for the “aforementioned” types of information (col. 7, lines 35-39). Thus, Garber only discloses a memory that is specifically for *storage* capacity of 128 bits, which is well below the range of “at least 512 bits” claimed in claim 5. Accordingly, the obviousness rejection of claim 5 cannot be maintained.

With respect to the rejection of claim 8, Garber does not teach that the memory has a storage capacity sufficient for storing at least a part of the identification information including: identification of manufacturer of the product, reference of an order for the product, identification of material constituting the product and reference of a material certificate, reference of a standard applicable to manufacturing of the product, reference of technical specifications of the product, reference of certificate of compliance with the standard, reference of a delivery voucher, and delivery date. Accordingly, the obviousness rejection of claim 8 cannot be maintained.

In addition, dependent claim 10 is also allowable, not only because it ultimately depends from and includes the limitations of patentable independent claim 1, but because it also defines limitations not taught by Springer, Brady, Afzali-Ardakani, and Paratore.

Claim 10 recites that the electronic component includes means for measurement of temperature and/or of pressure and/or of vibrations and/or of irradiation, and the transmission device transmits measurements made. The Office Action alleges that the RFID tag of Paratore includes a micro-sensor that can be adapted to detect temperature.

Paratore teaches an RFID tag with a timing module to measure elapsed time and an environment module to detect certain environmental conditions (abstract). The micro-sensor can be set to evaluate any relevant environmental condition that exceeds a certain threshold. Paratore teaches that the activation of the micro-sensor could trigger a register to begin to record time ticks until the micro-sensor is de-activated when the environmental condition is within an acceptable range. When the RFID tag is read by an interrogator, the total time ticks logged in the register would correspond to the total amount of time that the item was exposed to the condition (col. 5, lines 32-49).

The applicants assert that Paratore teaches the transmission of a time measurement in contrast to the transmission device of claim 10, which transmits the measurement of temperature, pressure, vibrations and/or irradiation made by the electronic component. Thus, the combination of Paratore with Springer, Brady and Afzali-Ardakani would not result in the claimed transmission of temperature, pressure, vibrations, and/or irradiation. Accordingly, the obviousness rejection of claim 10 cannot be maintained.

Dependent claims 16 and 17 are also allowable, not only because they depend from and include the limitations of patentable independent claim 1, but because they also define limitations not taught by Springer, Brady, Afzali-Ardakani, and Murasawa.

Claim 16 recites that the housing is delimited by an interior wall, and including a filling material filling the housing around the electronic component and bonding the electronic component to the interior wall. Claim 17 recites that the filling material is selected from the group consisting of an epoxy resin, a phenolic resin, a vinyl ester resin, and a polyvinyl resin. The Office Action alleges that Murasawa teaches providing electronic components in an aperture and filling the aperture with adhesive that includes epoxy. The Office Action further alleges that Murasawa teaches that the housing is delimited by an interior wall and that the filling material fills the housing around the electronic component and bonds the component to the interior wall.

The applicants assert that the housing referred to in claim 16 is within the thickness of a stack preferably with an open end in the lateral surface of the product (specification, page 6, lines 19-20). The claimed housing advantageously permits the peeling of many sheets from the top of the stack before reaching the housing. This contrasts with Murasawa, which teaches a core sheet having apertures that is placed on a first cover sheet for housing the electronic components (col. 2, lines 12-14 and col. 5, lines 1-2). The aperture is filled with a hot-melt adhesive so that the cover sheet is prevented from peeling off (col. 5, lines 31-42). Accordingly, Murasawa teaches away from the claimed laminated product, which includes sheets that can be detached from the stack without being torn. One of ordinary skill in the art would be discouraged from using the epoxy of Murasawa, which is used in Murasawa to prevent the cover sheet from peeling off, in a laminated product that includes detachable sheets, as claimed. Accordingly, the obviousness rejections of claims 16 and 17 cannot be maintained.

Rejoinder

Claims 21-25 and 27-28 were withdrawn from consideration as being drawn to a nonelected invention. As stated in MPEP § 821.04 (a), where restriction was required between independent or distinct products, or between independent or distinct processes, and all claims directed to an elected invention are allowable, any restriction requirement between the elected invention and any nonelected invention that depends from or otherwise requires all the limitations of an allowable claim should be withdrawn, and claims that require all the limitations of an allowable claim will be rejoined and fully examined for patentability in accordance with 37 CFR § 1.104. Claims 21-25 and 27-28 include the limitations of patentable claim 1. Accordingly, it is respectfully submitted that withdrawn claims 21-25 and 27-28 are also eligible for rejoinder.

JICEY and New X-Fiber[®] Brochures

The Office Action refers to brochures entitled “Peelable Shims,” JICEY precision shims (“JICEY Brochure”) and “New X-Fiber[®] The High-Resistance Composite Material” (“New X-Fiber[®] Brochure”) as “prior art” (see Office Action page 14, paragraph 45).

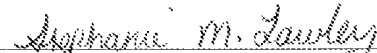
It is noted that the JICEY Brochure does not have a publication date, and that the New X-Fiber[®] Brochure gives the year 2009 in the right margin of page 1. There is no evidence that the JICEY Brochure or the New X-Fiber[®] Brochure were publicly available prior to the earliest priority date of the instant patent application of April 23, 2003.

Accordingly, the JICEY and New X-Fiber[®] brochures cannot be characterized as "prior art" against the instant patent application.

Conclusion

Applicants respectfully submit that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,


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Amendment or ROA - Regular (SML/mlg)